

REMARKS

Claims 37-39 and 60-66 are pending in this application. By this Amendment, claims 37 and 60 are amended and claims 64-66 are added. Claims 1-36 and 40-59 are canceled without prejudice to or disclaimer of the subject matter recited therein. No new matter is added by these amendments. Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

Applicants confirm that claims 37-39 and 60-63 continue to read on elected Species 7 and that new claims 64-66 also read on elected Species 7.

The Office Action provisionally rejects claims 37-39 and 60-62 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3 and 7-12 of copending Application No. 11/512,087; and rejects claims 37 and 60 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4 of copending Application No. 11/645,041. Applicants respectfully request that the Examiner hold this rejection in abeyance until a final determination on the scope of the claims has been determined.

The Office Action rejects claims 37-39 and 60-63 under 35 U.S.C. §103(a) over U.S. Patent No. 6,867,844 to Vogel et al. (hereinafter "Vogel") in view of U.S. Patent Application Publication No. 2004/0090606 to Ishikawa. The rejection is respectfully traversed.

Independent claim 37 recites that an optical element is used for an exposure apparatus configured to illuminate a mask with an exposure light beam for transferring a pattern on the mask onto a substrate through a projection optical system and to interpose a given liquid in a space between a surface of the substrate and the projection optical system. Independent claim 60 recites that an exposure apparatus is configured to illuminate a mask with an exposure light beam for transferring a pattern on a mask onto a substrate through a projection optical system, and to interpret a given liquid in a space between a surface of the substrate and the

projection optical system. The optical element and the exposure apparatus of claims 37 and 60 comprises a transmissive base material having a first surface on which the exposure light beam enter into the transmissive base material, a second surface on which the exposure light beam go out from the transmissive base material, and a side surface of the transmissive base material, and a light-shielding film provided on the side surface of the transmissive base material on the substrate's side of the projection optical system.

According to the optical element and the exposure apparatus of claims 37 and 60 mentioned above, it is possible to prevent irradiation of the exposure light beam and reflected light of the exposure light beam from a wafer onto the sealing member formed in the peripheral portion of the side surface (the tapered surface) of the transmissive optical element on the substrate's side of the projection optical system by use of the light shielding film. In this way, it is possible to prevent deterioration of the sealing member (*see Applicants' specification, page 28, line 22 to page 29, line 5, for example*).

On the other hand, Vogel does not disclose an optical element comprising a light-shielding film provided on a side surface of a transmissive optical element on a substrate's side of the projection optical system.

Moreover, Ishikawa discloses a light-shielding film formed on a lower surface of a glass plate of a reticle fiducial mark plate RFM. However, the reticle fiducial mark plate RFM described in Ishikawa is positioned at each measurement point within a field of projection optical system PL in an alignment system (*see Ishikawa's Figure 3*). In the reticle fiducial mark plate RFM, since the glass plate has a pinhole opening, a pinhole-shaped pattern is formed in the light-shielding film formed on the lower surface of the glass plate (*see Ishikawa's specification, column 8, lines 53-64*). Therefore, an image of the pinhole is formed on a wavefront measurement instrument when illumination light is irradiated on the reticle fiducial mark plate RFM (*see Ishikawa's specification, column 13, lines 5-53*). Thus,

the light-shielding film described in Ishikawa is formed on a surface on which illumination light go out in order to form the image of the pinhole on the wavefront measurement instrument in an alignment system. In this way, it is clear that the light-shielding film described in Ishikawa is not formed on a side surface of a transmissive optical element.

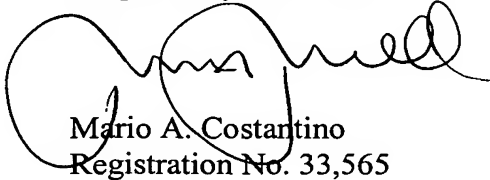
Applicants further submit that claims 37-39 and 60-66 are not obvious for at least the reason that none of the cited references, taken alone or in any reasonable combination, provide any reason or rationale to include each and every claim element of independent claims 37 and 60. As discussed above, Vogel does not provide any reason or rationale to include each and every element of claims 37 and 60. The addition of Ishikawa does not remedy this deficiency.

Applicants therefore respectfully request withdrawal of the rejection.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: April 21, 2009

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